

**MARK SCHEME for the May/June 2012 question paper  
for the guidance of teachers**

**7094 BANGLADESH STUDIES**

**7094/02**

Paper 2 (Environment and Development of Bangladesh),  
maximum raw mark 75

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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**1 (a) (i) Name the areas of high land labelled A and B.**

A – Sylhet (Hills)

B – Chittagong (Hill Tracts)

[2]

**(ii) Describe the distribution of high land in Bangladesh.**

main area in SE,  
small area in NE  
area in north/NW  
small area in centre

Accept reference to accurately named areas instead of compass directions

[3]

**(iii) Describe the human and physical characteristics of area B.**

few people/low population density  
tribal peoples  
practise shifting/Jhum cultivation  
HEP  
tea plantations

deep river valleys  
hills  
forested/tropical evergreen  
deforestation  
landslides  
highest parts form a N–S ridge  
highest area of Bangladesh/over 200 m high  
hot springs  
soil not fertile  
steep slopes  
waterfalls  
lake(s)  
high rainfall

Max 2 for physical or human characteristics

[5]

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- (b) (i) Study Fig. 2, which shows a cross-section of a river and its flood plain. Using Fig. 2 to help you, explain how levées are formed.**

rivers carry silt/load  
 after heavy rain river floods  
 overflows banks  
 friction/speed slows on banks  
 silt deposited  
 heavier/coarser load deposited on river banks  
 sediments build up/accumulate over time/repeated floods  
 embankments formed/banks raised  
 more frequently flooded on bank side

[4]

- (ii) Explain where the silt and alluvium come from.**

erosion takes place  
 in Himalayas/hills to the north  
 material eroded from river/meanders/banks/upstream  
 most erosion when rivers high/after heavy rain  
 eroded material transported by river

[2]

- (c) Describe and explain what is happening to the river bank shown in Photograph A.**

not river bed  
 current close to bank  
 undercutting/erosion  
 forms a river cliff  
 bank collapses  
 material carried away by current/river  
 loss of land  
 potential loss of homes/crops, etc.

[4]

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**(d) Study the two statements below:**

**A 'Rivers are the life-blood of Bangladesh.'**

**B 'Rivers are Bangladesh's sorrow.'**

**(i) Give one piece of evidence which supports statement A.**

flooding adds nutrients to land  
densely populated country needs annual addition of nutrients  
rivers vital for water supply – washing/cooking/drinking  
irrigation water for farming  
rice needs a lot of water to provide high yields  
water for industry  
transport via river  
fish from rivers source of protein  
measures can be taken to protect people from worst floods, etc.  
HEP in Chittagong area

[1]

**(ii) Give one piece of evidence which supports statement B.**

floods can cause devastation  
loss of lives  
loss of farmland/crops/livestock  
changing courses of rivers can wreck villages  
poor country so cannot protect all people against floods  
bring waterborne diseases

[1]

**(iii) Which statement do you agree with the most? Give reasons for your answer.**

No marks for stating A or B only for reasons. Credit reasons for agreeing with one and also for rejecting the other. Accept answers that give support to both statements. Allow points to be developed.

[3]

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2 (a) Study Fig. 3, which shows a variety of predictions about how much the sea level may rise in the future. Each line on the graph represents a different prediction.

(i) What is the highest prediction for the rise in sea level between 1990 and 2030?

15 cm +/- 1 cm [1]

(ii) What is the lowest prediction for the rise in sea level between 1990 and 2030?

3 cm–6 cm [1]

(iii) Describe what the graph in Fig. 3 shows about predicted sea level rises up to 2100.

all predictions are for a rise  
 great variation in predictions  
 difference is 77 cm (accept 75–80 cm)/from 8–86 +/-2 cm  
 cluster between 30 cm to 50 cm [2]

(iv) Sea level is predicted to rise further due to global warming. In what way does global warming affect sea level?

melting of ice caps and glaciers  
 (more) water carried by rivers  
 more water discharged into ocean  
 water expands as it warms up [2]

(b) (i) Global warming is mainly caused by 'greenhouse gases' and the 'greenhouse effect'. Name the two main greenhouse gases.

methane  
 carbon dioxide [2]

(ii) Explain how the greenhouse effect causes global warming. Credit will be given for use of a relevant diagram.

sun's rays heat earth's surface  
 long wave radiation passes through gases in atmosphere  
 heat radiated back from earth (in short waves)  
 this radiation cannot pass through carbon/greenhouse gases  
 heat is trapped  
 earth becomes warmer

Do not double credit in text and on diagram. Allow development. [4]

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**(iii) Explain two effects of global warming on Bangladesh other than rising sea level.**

increased frequency of cyclones  
 due to water in Bay of Bengal being warmer  
 increased droughts  
 due to unpredictability of rainfall  
 migration of people to areas less prone to flooding  
 increase temperature

max 1 = extinction of species, loss of crops, houses damaged, waterborne diseases, forest fires, etc. [4]

**(c) Read the account of the village of Sona Mollar Dangi which is based on a case study in a government report on the impact of global warming on Bangladesh. Explain how these changes will help this community to cope with global warming.**

raised buildings 0.5 m above flood level  
 buildings not swept away in floods  
 raised gardens and orchards  
 continue to grow food during floods  
 solar panel provides (free) electricity reducing greenhouse gases  
 without contributing carbon to atmosphere  
 health clinic to overcome problems of disease/flood  
 raised tubewells to keep water clean

[3]

**(d) The example of Sona Mollar Dangi is given as an example of 'Thinking globally but acting locally'. Study the two statements below.**

**A 'Thinking globally but acting locally would enable Bangladesh to cope with global warming.'**

**B 'A major investment is needed if Bangladesh is to cope with global warming.'**

**(i) Give one piece of evidence which supports statement A.**

people can do things for themselves/local projects or example  
 floating gardens enable crops to survive floods  
 solar energy reduces carbon emissions  
 other examples of reducing production of carbon gases e.g. bio digesters  
 world/global problem  
 developed countries responsible

[1]

**(ii) Give one piece of evidence which supports statement B.**

local action cannot deal with major projects/need for funding of even local changes  
 e.g. infrastructure, flood warnings, cyclone shelters  
 afforestation  
 putting pressure on other countries to reduce carbon emissions  
 building vehicles that do not use fossil fuels/reduce emissions  
 national campaigns to support people trying to take local action

[1]

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- (iii) **What do you think is the best way for Bangladesh to respond to global warming? Give reasons for your answer.**

Allow points to be developed.

Reasons can support either or both statements or neither if valid reasons are given.

[4]

- 3 (a) (i) **Study Fig. 4, which shows the main areas of wheat and rice production. Describe the location of the major wheat growing areas.**

mainly in NW  
Rajshahi division  
north of R Padma and west of R Jamuna  
narrower area to east of R Jamuna  
separate small area to west of R Meghana  
Comilla area  
central area/Dhaka to Rajshahi

[2]

- (ii) **Give reasons why wheat is a major crop in these areas.**

drier parts of the country/400–1100 mm rainfall  
less reliable rainfall  
grown during dry season when unsuitable for rice  
inadequate rainfall for rice growing  
sandy, loamy soils

Two developed statements, do not credit vague answers such as 'suitable conditions'. [2]

- (iii) **Explain why rice is the main crop in many parts of Bangladesh.**

high rainfall/1000–3000 mm  
water from rivers for irrigation  
warm temperatures – need 25<sup>o</sup> C/16 °C–27 °C  
high yields possible  
flat land/plain (easy to irrigate)  
fertile soil/alluvium  
water retaining soil  
plenty of labour for cultivation

Allow development of points

Accept relevant comparisons with other crops

[4]

- (b) (i) **Study Fig. 5, which shows changes in cereal production between 1980 and 2000. Compare the change in total production of cereals with the change in production per person.**

total production risen more than per person production/high v low/steady v slow  
86% cf 16% =/–2%  
more than 5 times greater increase  
both increase = 1 if nothing else

[2]

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(ii) Suggest a reason for the differences you described in **(b)(i)**.

population growth  
so less per person than if population is stable [2]

(c) (i) The changes that enabled yields to increase are often called 'the green revolution'. Explain how the green revolution led to higher yields.

new varieties of seeds which give higher yields  
examples of HY varieties e.g. Maxipak, Irri 6  
improved irrigation/continuous supply of water  
increased use of fertilisers for higher yield  
consolidation of land  
use of pesticides  
machinery – less wastage/more productivity  
education/training [3]

(ii) Study Fig. 6, which shows some of the problems arising from the green revolution. Explain how the green revolution can give rise to two of the problems listed in Fig. 6.

use of HYVs can lead to reduction in genetic variety  
can lead to outbreak of pests  
extract large quantities of nutrients from soil  
too much fertiliser use can ruin soil  
gives rise to unhealthy plants  
eutrophication  
too much use of pesticides can affect quality of food  
and kill off natural predators  
waterlogging  
salinisation  
soil erosion  
Allow development [4]



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(d) Study the two statements below.

**A 'The green revolution has been of great benefit to Bangladesh.'**

**B 'Bangladesh must develop more sustainable forms of agriculture.'**

(i) Give one piece of evidence which supports statement A.

increased food production to meet needs of growing population  
would have been hunger/malnutrition  
large population in small land area needs high yields

[1]

(ii) Give one piece of evidence which supports statement B.

yields will start to decline  
use of chemicals affecting water/people's health/soil  
fertilisers, etc expensive  
GM crops  
land scarce but population growing  
roof top gardens

[1]

(iii) What do you think is the best way for Bangladesh to develop its agriculture?  
Give reasons for your answer.

No marks for stating A or B only for giving reasons. Credit reasons for agreeing with one and also for rejecting the other. Accept answers that give support to both statements. Allow points to be developed.

[4]

4 (a) Study Fig. 7, which shows population density for Bangladesh.  
Describe how population density changes along the River Padma from the Bay of Bengal to the border with India.

low density  $\leq$  500 per sq km in islands/at the beginning  
medium density (or figure) as pass through delta  
high density to east of river but medium to west  
after confluence with Meghna/Dhaka high density to NE but medium to SW  
medium on both sides before confluence with Jamuna (about 50 kms)  
then medium all way to Indian border  
exception of one small area on south bank

Accept references to left and right banks provided correct as facing mouth.  
Accept references to correct names of places or provinces.

[3]

(b) (i) Study Fig. 8, which shows Bangladesh's actual and predicted population growth.  
By how much is the population expected to grow between 2010 and 2020?

15 million +/- 1 million

[1]

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(ii) Describe the trends in population growth from 1940 to 2020 shown in Fig. 8.

general trend of rapid growth = 1 if nothing else  
 Steady/slow growth from 1940 to 1960/14 million  
 then faster growth to 1970/22 million  
 slightly slower growth to 1980/12 million  
 steady/consistent growth to 2010/54 million  
 growth predicted to continue to 2020

Reserve 1 for identifying projected or estimated growth.

Max 2 for quoting figures. Need the difference

[3]

(iii) A Suggest three reasons for the population changes shown in Fig. 8.

better health care  
 improved food supply  
 improved sanitation, access to safe drinking water  
 tradition of large families  
 religion  
 high birth rate/poor family planning  
 lack of education/awareness – early marriages

Allow 2 max for different aspects of improved health e.g. infant mortality decreases, vaccination, etc.

[3]

**B For one of the reasons you have described in (iii) A, explain how it contributes to population growth.**

health care – more hospitals/clinics/doctors – people cured, live longer  
 education and awareness of better living styles  
 food supply – more, better nutrition  
 healthier environment – sanitation, access to safe drinking water- less disease  
 large families – son as heir, help on farms/in home, income  
 early marriages – longer child bearing years

[3]

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**(iv) A Briefly describe three problems caused by population growth.**

pressure on limited amount of land  
 urbanisation and overcrowding/strain on housing/rural-urban migration  
 deforestation  
 landlessness  
 strain on infrastructure – named  
 difficult to provide education and health care  
 difficult to help all when disasters occur  
 unemployment  
 shortage of food  
 unemployment

[3]

**B For one of the problems you have described in (iv) A, explain fully how it is affected by population growth.**

pressure on land – farms too small, crowded, substandard housing  
 urbanisation – fewer people farming, unemployment, shanty towns  
 deforestation – more land needed for farming, houses, global warming  
 landlessness – increase in poverty, land fragmentation, migration  
 infrastructure – load shedding, traffic congestion  
 education and health care – lack of schools, hospitals, etc.  
 unemployment leads to crime, etc. – rural-urban migration

[3]

**(c) Study the two statements below.**

**A ‘There are good reasons for people in Bangladesh to have large families.’**

**B ‘Family sizes in Bangladesh need to be reduced.’**

**(i) Give one piece of evidence which supports statement A.**

many children still die in infancy  
 large families needed so elderly can be looked after  
 more to work on the land  
 more to earn a living/increased income  
 lack of education

[1]

**(ii) Give one piece of evidence which supports statement B.**

limited amount of land available  
 resources stretched to feed everyone  
 cannot afford to provide services to more people  
 with fewer children more scope for a better life  
 already a poor country

[1]

**(iii) Which statement do you agree with the most? Give reasons for your answer.**

No marks for stating A or B only for reasons. Credit reasons for agreeing with one and also for rejecting the other. Accept answers that give support to both statements. Allow points to be developed.

[4]

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- 5 (a) (i) Study Fig. 9, which shows changes to the percentage of people employed in agriculture in Bangladesh.  
Describe how employment in agriculture has changed between 1960 and 2009.

decrease in general = 1 mark  
by 34%–36%  
declined steeply from 1960 to 1980/23%  
less steep decline from 1980 to 2000/9%  
(slight) increase from 2000 to 2005/1%  
steep decline again to 2009/4–5%

Max 1 for accurate figures [2]

- (ii) Give reasons for the changes you have described in (a)(i).

people moving to towns and cities/rural-urban migration/push-pull factors  
opportunities for jobs in services and industry  
consolidation of land holdings/land scarcity  
greater use of machinery [2]

- (b) (i) Study Fig.10, which shows the percentage of people working in the industrial sector in a variety of countries.  
Which country had the biggest overall increase between 1990 and 2008?

Sri Lanka [1]

- (ii) Compare the changes shown on Fig. 10 that took place in Japan with those that took place in Bangladesh.

1990–1995 Bangladesh decreased but Japan stayed the same  
1995–2000 both decreased  
2000–2005 Japan still decreased but Bangladesh increased  
2005–2008 Japan stayed the same but Bangladesh increased at a slower rate

Must be a comparison. Allow comparison of figures. [4]

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**(c) (i) Name four important industries in Bangladesh.**

garments  
jute and jute goods  
leather  
craft goods/cottage industry  
paper  
juice/food processing edible oil  
oil/petroleum  
gas  
sugar  
fertiliser  
tea  
fishing

4 correct for 2 marks, 2–3 correct for 1 mark [2]

**(ii) For one of the industries you have named, describe its main characteristics.**

garments – export orientated, increasing home market, 80% employees female, dependent on imported raw materials, growing industry, products (include shirts, jackets, trousers), main markets EU and USA, use of machinery, small scale, labour intensive  
jute – declining, synthetic materials more popular, many debts/losses, electricity failures, changes in government policy, products include carpet backing, sacks, bags, caps, canvas  
leather – export orientated, mainly to EU, Brazil, Singapore, increasing with government support, products include shoes, jackets, bags,  
craft – cottage/small scale industry, family based, local raw materials, low capital, traditional techniques, products include textiles, pottery, bamboo, cane, brass  
paper – modern mills privately run, use imported pulp, some use recycled paper or jute and straw cuttings, not sufficient for local demand

Other industries may be used. Accept brand names. [3]

**(iii) Bangladesh is trying to encourage more industrial development. What are the likely benefits of such development?**

provides employment  
reduces reliance on imports  
goods can be exported  
earns foreign exchange/increase GNP/income/economic development  
more scope for adding value than agricultural products  
encourages investment  
more resources  
more formal employment

Allow development [3]

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(iv) What are the obstacles to Bangladesh developing its industries?

lack of finance/loans/state benefit  
shortage of skilled workers  
weak home market/people cannot afford to buy goods  
exports face tariff barriers/quotas  
shortage of power/blackouts  
lack of raw materials  
poorly developed infrastructure/transport  
lack of technology  
can't compete with imports  
political instability  
corruption

Allow development

[3]

(d) Study the two statements below:

A 'Economic development in Bangladesh depends on the expansion of its industry.'

B 'The most important sector for Bangladesh's people is agriculture.'

(i) Give one piece of evidence which supports statement A.

industry provides more jobs  
industry can create more wealth  
scope for using higher levels of technology  
create goods for export  
attract foreign investment  
increase foreign exchange/GNP  
reduce imports

[1]

(ii) Give one piece of evidence which supports statement B.

most people work in agriculture/live in rural areas/villages  
food is most basic requirement/self sufficient  
very fertile soil  
suitable climatic conditions to produce agricultural crops  
jute/sugar cane important raw materials

[1]

(iii) Which statement do you agree with the most? Give reasons for your answer.

No marks for stating A or B only for reasons. Credit reasons for agreeing with one and also for rejecting the other. Accept answers that give support to both statements. Allow points to be developed.

[3]